

CHECKLIST ENVIRONMENTAL ASSESSMENT

Proposed Action: Approve Drilling Permit (Form 22)

Project/Well Name: Brethren 43-29

Operator: Rim Operating, Inc.

Location: NE SE Section 29 T32N R58E

County: Sheridan, MT; **Field (or Wildcat):** Wildcat

Proposed Project Date: 9/1/2023

I. DESCRIPTION OF ACTION

Rim Operating, Inc. plans to drill a 11,650' vertical well to test the Red River Formation.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS, OR INDIVIDUALS CONTACTED

Montana Bureau of Mines and Geology, GWIC website (Sheridan County Wells).

US Fish and Wildlife, Region 6 website

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Sheridan County

Montana Natural Heritage Program Website (FWP)

Heritage State Rank= S1, S2, S3, T32N R58E

Montana Cadastral Website

Surface Ownership and surface use Section 29 T32N R58E

Montana Department of Natural Resources MEPA Submittal

2. ALTERNATIVES CONSIDERED

No Action Alternative: The proposed well would not be drilled.

Action Alternative: Rim Operating, Inc. would have permission drill the well.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

3. AIR QUALITY

Long drilling time: No, 2-4 days drilling time.

Unusually deep drilling (high horsepower rig): No, triple drilling rig to test the Red River Formation, 11,650' MD/TVD.

Possible H₂S gas production: Yes, possible H₂S gas from the Mississippian formations.

In/near Class I air quality area: No.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211. AQB review.

Comments: No special concerns – using rig to drill to re-enter well 11,650' TVD/MD. If there are no gas gathering systems nearby, associated gas can be flared under Board Rule 36.22.1220.

4. WATER QUALITY

Salt/oil based mud: Use freshwater and freshwater mud system for drilling surface hole (Rule 36.22.1001). Main hole will utilize an oil-based system.

High water table: No high-water table anticipated at this location.

Surface drainage leads to live water: No, nearest drainage is an unnamed ephemeral drainage about 2/5 of a mile to the south.

Water well contamination: No, nearest water well is a stockwater well about 3/10 of a mile to the south and is 93' deep. Another stockwater well is listed as 4/5 of a mile to the northwest and is 52' deep.

Surface hole must be drilled with freshwater and freshwater mud.

Porous/permeable soils: No, clay soils.

Class I stream drainage: No.

Groundwater vulnerability area: No.

Mitigation:

☐ Lined reserve pit

☐ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☒ Closed mud system

☒ Off-site disposal of solids/liquids (in approved facility)

Comments: Steel surface casing to be set at 3,000' and cemented to surface to protect ground water. (Rule 36.22.1001).

5. SOILS/VEGETATION/LAND USE

Vegetation: Cultivation.

Stream crossings: None anticipated.

High erosion potential: No, location requires a small cut, up to 2.8' and a small fill, up to 3.5'.

Loss of soil productivity: None, location to be restored. after drilling well, if well is nonproductive.

Unusually large wellsite (Describe dimensions): No, a large location will be used, 400' X 300'.

Damage to improvements: Slight, surface is a cultivated field.

Conflict with existing land use/values: Slight

Mitigation

- ☐ Avoid improvements (topographic tolerance)
- ☐ Exception location requested
- ☒ Stockpile topsoil
- ☐ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- ☐ Special construction methods to enhance reclamation

Access Road: Access will be off East Lake Highway. A new access of 132' will be built into location.

Drilling fluids/solids: Cuttings will be hauled off for disposal.

6. HEALTH HAZARDS/NOISE

Proximity to public facilities/residences: No residences within ½ mile radius.

Possibility of H2S: Yes, possible H2S gas from the Mississippian formations.

In/near Class I air quality area: No.

Size of rig/length of drilling time: 2-4 days drilling time.

Mitigation:

- ☒ Proper BOP equipment
- ☐ Topographic sound barriers
- ☐ H2S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other:

7. WILDLIFE/RECREATION

Sage Grouse: No.

Proximity to sensitive wildlife areas (DFWP identified): None.

Proximity to recreation sites: None.

Creation of new access to wildlife habitat: None.

Conflict with game range/refuge management: None.

Threatened or endangered Species: Species identified as threatened or endangered in Sheridan County, Montana are the Piping Plover, Whooping Crane, Northern Myotis, Pallid Sturgeon, and Monarch.

MTFWP Natural Heritage Tracker website lists fourteen (14) species of concern. They are the American Bittern, Nelson's Sparrow, Sprague's Pipit, Burrowing Owl, Ferruginous Hawk, Long-billed Curlew, Thick-billed Curlew, Chestnut-collared Longspur, Baird's Sparrow, Bobolink, Whooping Crane, Red-headed Woodpecker, Loggerhead Shrike, and the Pale-spiked Lobelia.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DNRC Trust Lands, Sage Grouse Habitat Conservation Program)

☐ Screening/fencing of pits, drillsite

☐ Other:

Comments: Private cultivated surface lands. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands. No concerns.

IV. IMPACTS ON THE HUMAN POPULATION

8. HISTORICAL/CULTURAL/PALEONTOLOGICAL

Proximity to known sites: None.

Mitigation

☐ avoidance (topographic tolerance, location exception)

☐ other agency review (SHPO, DNRC Trust Lands, federal agencies)

Other:

9. SOCIAL/ECONOMIC

Substantial effect on tax base

☐ Create demand for new governmental services

☐ Population increase or relocation

Comments: No concerns.

IV. SUMMARY

No long term impacts expected. Some short term impacts will occur, but can be mitigated.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

**EA Checklist
Prepared By:**

Name: John Gizicki

Date: 08/14/23

Title: Chief Field Inspector